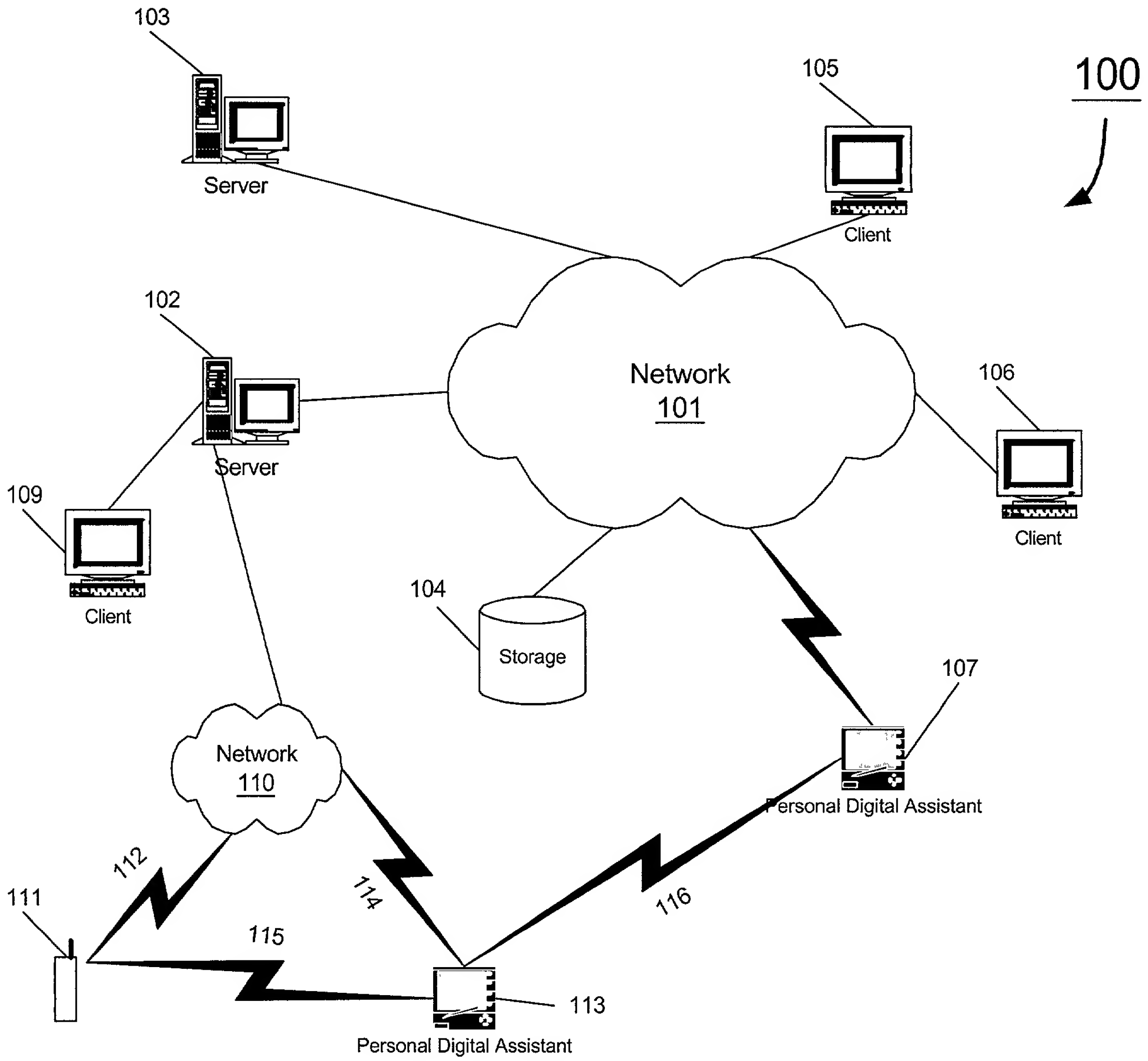
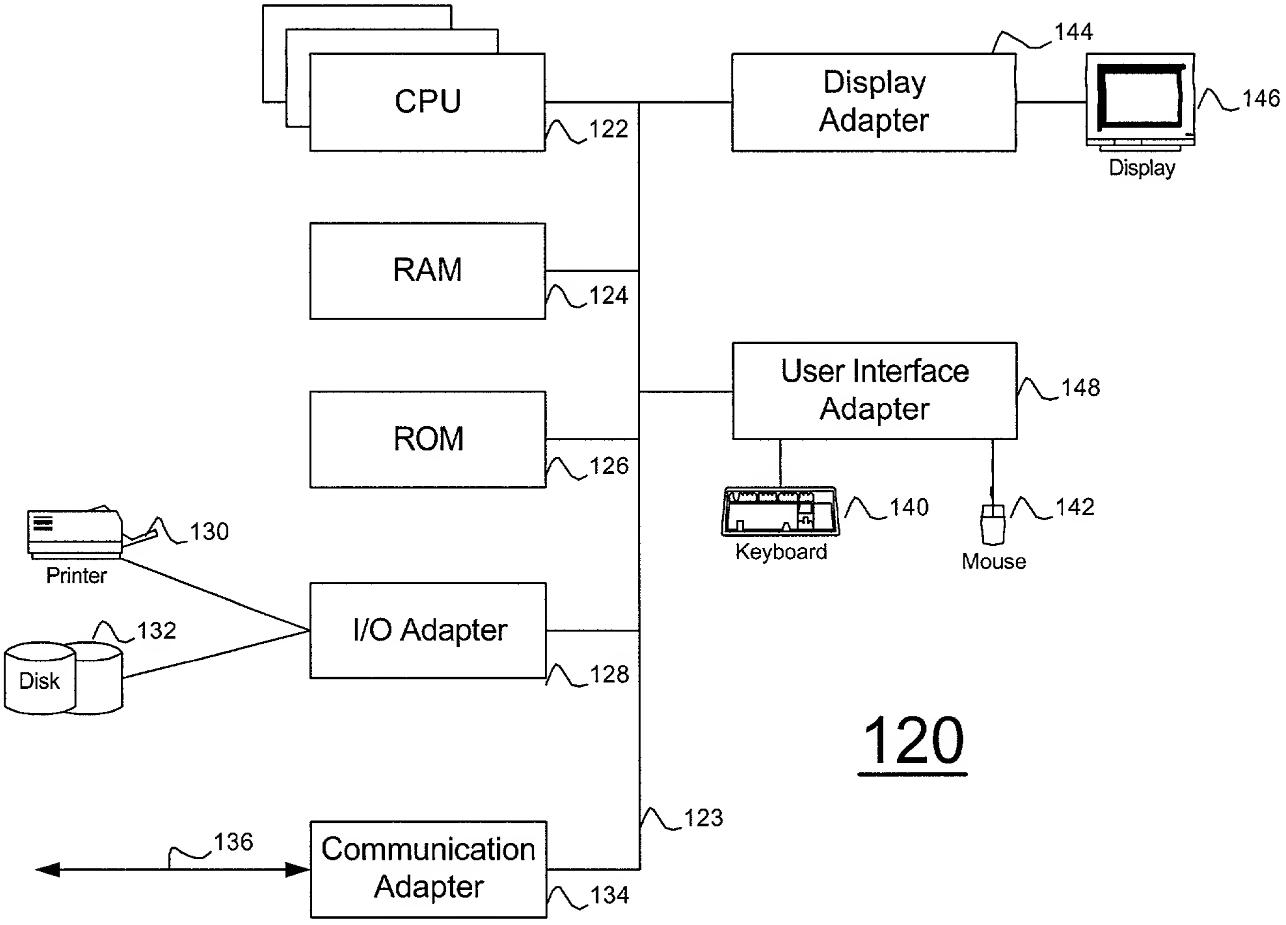
EF409652552US



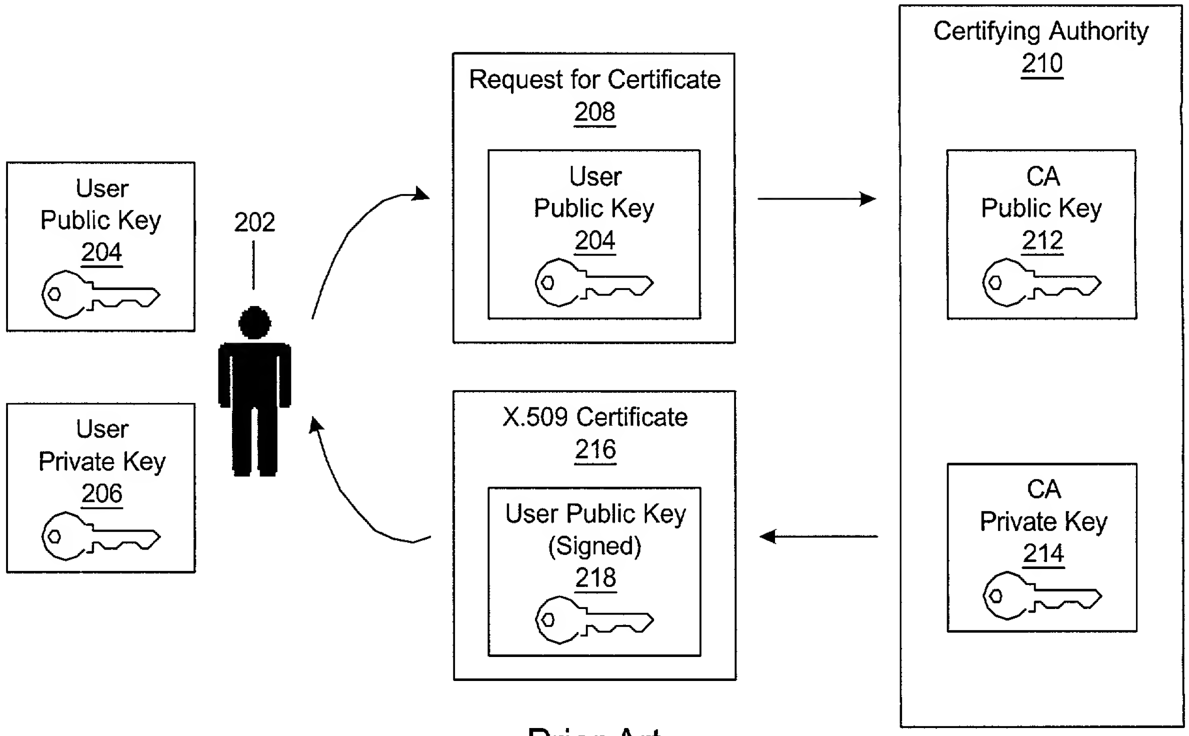
Prior Art

Figure 1A



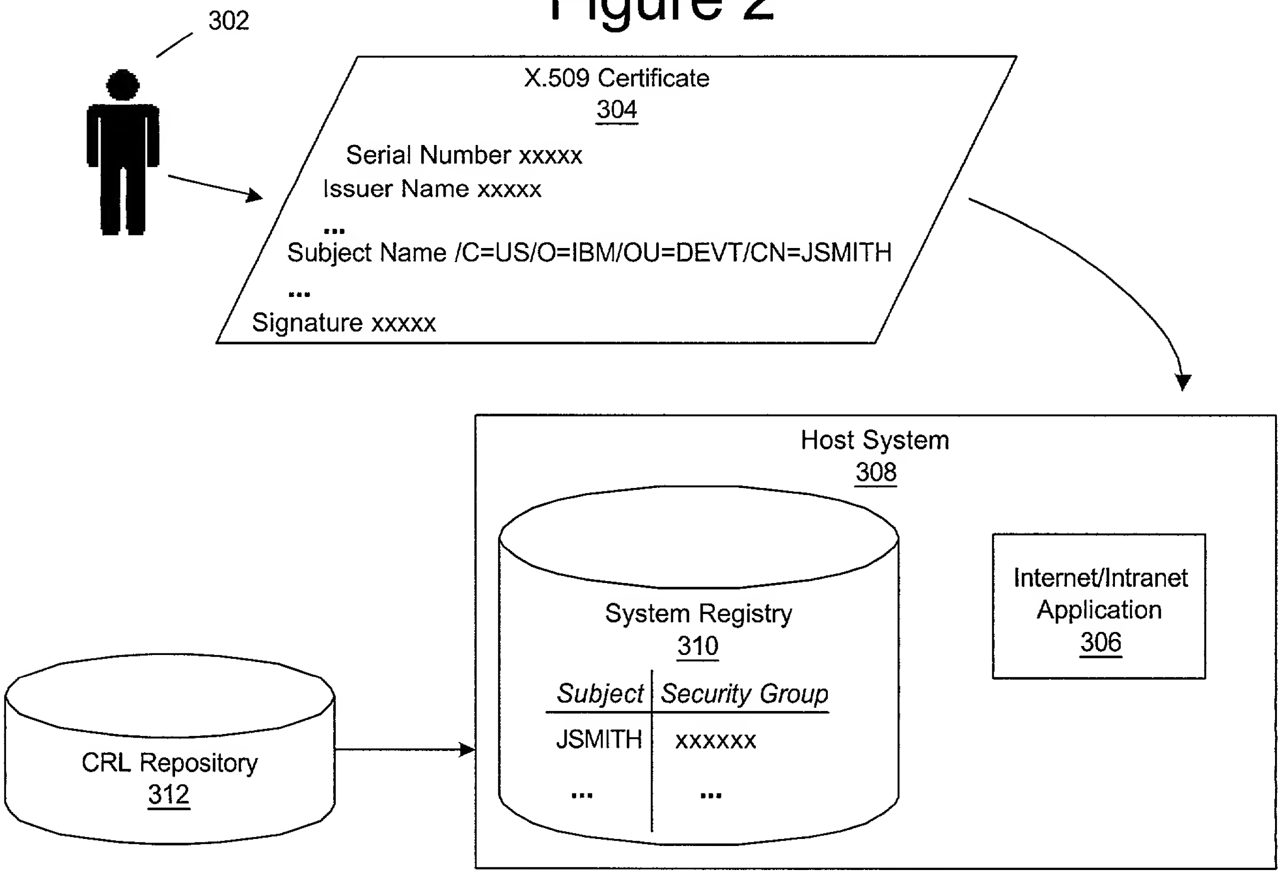
Prior Art

Figure 1B



Prior Art

Figure 2



Serial Number xxxxx
Issuer Name xxxxx
...
Subject Name /C=US/O=IBM/OU=DEVT/CN=JSMITH
...
Signature xxxxx

Subject	*Security Group*
JSMITH	xxxxxx
...	...

Prior Art

Figure 3

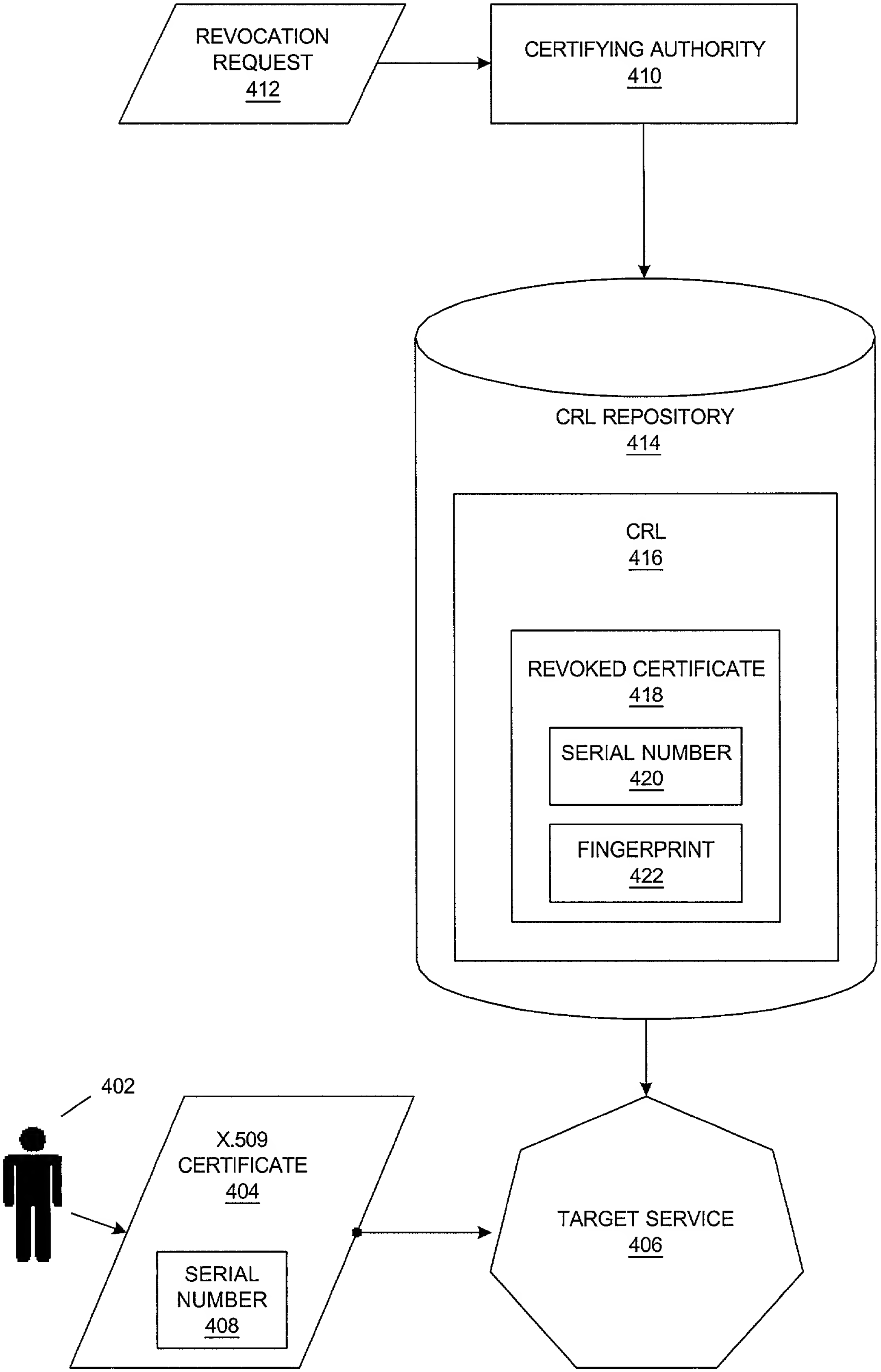

REVOCATION REQUEST 412
CERTIFYING AUTHORITY 410
CRL REPOSITORY 414
CRL 416
REVOKED CERTIFICATE 418
SERIAL NUMBER 420
FINGERPRINT 422
402
X.509 CERTIFICATE 404
SERIAL NUMBER 408
TARGET SERVICE 406

Figure 4

```
Certificate  ::=  SEQUENCE  {
      tbsCertificate          TBSCertificate,
      signatureAlgorithm      AlgorithmIdentifier,
      signature               BIT STRING  }

TBSCertificate  ::=  SEQUENCE  {
      version            [0]  Version DEFAULT v1,
      serialNumber            CertificateSerialNumber,
      signature               AlgorithmIdentifier,
      issuer                  Name,
      validity                Validity,
      subject                 Name,
      subjectPublicKeyInfo    SubjectPublicKeyInfo,
      issuerUniqueID     [1]  IMPLICIT UniqueIdentifier OPTIONAL,
      subjectUniqueID    [2]  IMPLICIT UniqueIdentifier OPTIONAL,
      extensions         [3]  Extensions OPTIONAL   }

Version  ::=  INTEGER  {  v1(0), v2(1), v3(2)   }

CertificateSerialNumber  ::=  INTEGER

Validity ::= SEQUENCE {
      notBefore               Time,
      notAfter                Time }

Time ::= CHOICE {
      utcTime                 UTCTime,
      generalTime             GeneralizedTime }

UniqueIdentifier  ::=  BIT STRING

SubjectPublicKeyInfo  ::=  SEQUENCE  {
      algorithm               AlgorithmIdentifier,
      subjectPublicKey        BIT STRING   }

Extensions  ::=  SEQUENCE SIZE (1..MAX) OF Extension

Extension  ::=  SEQUENCE  {
      extnID                  OBJECT IDENTIFIER,
      critical                BOOLEAN DEFAULT FALSE,
      extnValue               OCTET STRING  }
```

Priort Art

Figure 5A

```
CertificateList ::= SEQUENCE {
        tbsCertList             TBSCertList,
        signatureAlgorithm      AlgorithmIdentifier,
        signatureValue          BIT STRING }

TBSCertList ::= SEQUENCE {
        version                 Version OPTIONAL,
        signature               AlgorithmIdentifier,
        issuer                  Name,
        thisUpdate              Time,
        nextUpdate              Time OPTIONAL,
        revokedCertificates     SEQUENCE OF SEQUENCE {
                userCertificate         CertificateSerialNumber,
                revocationDate          Time,
                crlEntryExtensions      Extensions OPTIONAL
        } OPTIONAL,
        crlExtensions    [0]    EXPLICIT Extensions OPTIONAL
}
```

Priort Art

Figure 5B

```
certFingerprint ::= SEQUENCE OF SEQUENCE {
        algorithm               AlgorithmIdentifier,
        fingerprint             octet string
}
```

Figure 6

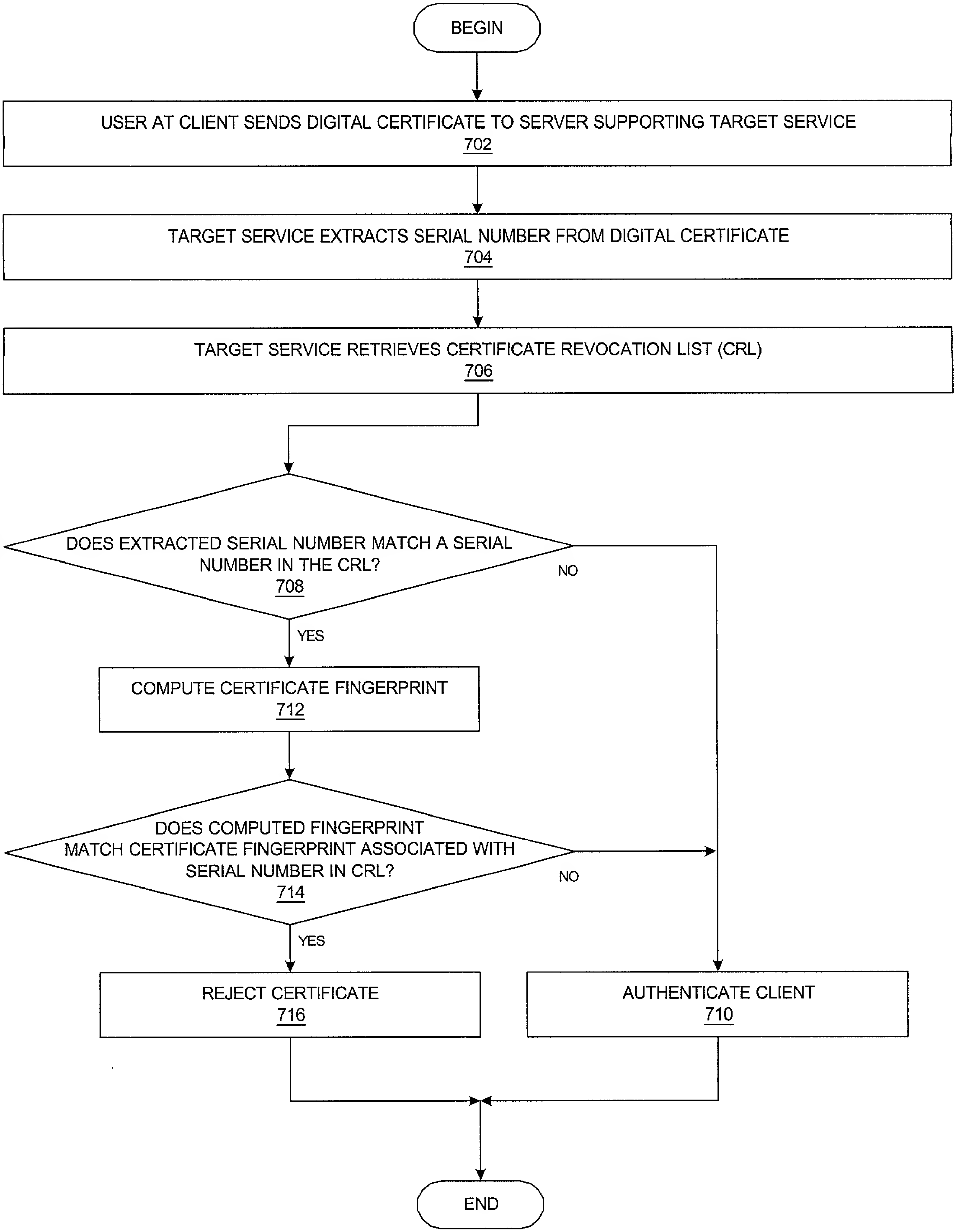

BEGIN
USER AT CLIENT SENDS DIGITAL CERTIFICATE TO SERVER SUPPORTING TARGET SERVICE
702
TARGET SERVICE EXTRACTS SERIAL NUMBER FROM DIGITAL CERTIFICATE
704
TARGET SERVICE RETRIEVES CERTIFICATE REVOCATION LIST (CRL)
706
DOES EXTRACTED SERIAL NUMBER MATCH A SERIAL NUMBER IN THE CRL?
708
NO
YES
COMPUTE CERTIFICATE FINGERPRINT
712
DOES COMPUTED FINGERPRINT MATCH CERTIFICATE FINGERPRINT ASSOCIATED WITH SERIAL NUMBER IN CRL?
714
NO
YES
REJECT CERTIFICATE
716
AUTHENTICATE CLIENT
710
END

Figure 7